

- 1.4. The Applicator shall follow the general guidelines provided by this Specification and Application Guide to ensure that the implementation of the **POLYGUARD IRO™** is comprehensive and correct for the specified work.
- 1.5. The Applicator shall also follow any additional written procedures providing further details for unusual or more specific types of applications, to ensure that the implementation of the **POLYGUARD IRO** System is comprehensive and correct for the specified work.

2. General Requirements

- 2.1. The owner shall comply with all written recommendations of the Manufacturer regarding the application of the **POLYGUARD IRO**. Written reports shall be kept for each field joint.

3. Surface Preparation Requirements

- 3.1. Remove dirt, grease and oil from the FBE in accordance with SSPC-SP-1 "Solvent Cleaning".
- 3.2. When **POLYGUARD IRO** is to be applied by tying into existing main line coating. When these coatings are Fusion Bonded Epoxy (FBE), Three Layer or other coatings with a polyolefin outer layer, these coatings should be sanded with 80 grit emery cloth to abrade the surface of the main line coating a minimum of 6 inches beyond each end of the **RD-6®** before application of **POLYGUARD IRO** over the main line coating and **RD-6**. This abrading is only to give a roughened surface for the **POLYGUARD IRO** to adhere and should not further damage the main line coating or expose the steel surface. If the main line coating is **Polyguard RD-6** this abrading is not necessary.

4. Materials

- 4.1. **POLYGUARD IRO** is comprised of a woven fiberglass tape that is impregnated by an uncured (liquid) polyurethane resin.
- 4.2. The resin component of **POLYGUARD IRO** is activated by fresh or salt water and hardens as it cures, resulting in a thermoset composite.
- 4.3. The hardening of the resin component produces an impact and abrasion resistant fiberglass-reinforced composite sleeve, resistant to attack by petroleum products and many other chemicals, and possessing its greatest strength in the circumferential (hoop) direction of the pipe that is being coated.
- 4.4. The Physical Specification values shall meet the values given on the data sheet for **POLYGUARD IRO**.

5. Application over RD-6 for HDD field joint coating protection.

- 5.1. After **RD-6®** has been applied (without the **SP-6™ outer wrap**), open pouch and immerse **POLYGUARD IRO** roll in water for a minimum of 10 seconds. The resin component of **POLYGUARD IRO** is activated by fresh or salt water and hardens as it cures, resulting in a thermoset composite.
- 5.2. In Cold Weather applications, the temperature of the pipe surface in the repair area must be heated to a temperature over 40°F (5°C) prior to the application of **POLYGUARD IRO**. This pre-heated pipe temperature shall remain above 40°F (5°C) until proper cure is achieved. The **POLYGUARD IRO** resin component will not cure properly when the pipe temperature is below 40 °F (5°C).
- 5.3. The **POLYGUARD IRO** application should start on the side of the field joint that will be pulled into the bored hole first. Start the application of **POLYGUARD IRO** at a minimum distance of 6" beyond the **RD-6** and spiral wrap using a 75% overlap to achieve a thickness of four layers. The **POLYGUARD IRO** should be applied in the same direction as the **RD-6** inner wrap was applied.
- 5.4. The **POLYGUARD IRO** application shall be tapered onto the existing pipe coating at both ends of the field joint area. This is achieved by wrapping 4 layers of **POLYGUARD IRO** in a spiral with a 75% overlap.
- 5.5. Hold the end of the **IRO** firmly to the surface of the pipe at the starting point between the 8 o'clock and 10 o'clock position on the pipe.
- 5.6. Unroll **POLYGUARD IRO**, keeping the roll as close to the surface of the pipe as possible. Do not use a long lead of **IRO**. The roll of **POLYGUARD IRO** should always be applied with the roll being applied from the side of the roll that is closest to the pipe to maintain proper tension and pressure.

